



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,065	10/07/2003	Jeff C. Unger	024.0015	7982
29906	7590	01/09/2006		
			EXAMINER	
				VO, HAI
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/686,065	UNGER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Hai Vo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 18 October 2005.

2a) This action is FINAL.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) 19-21 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-18 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 10/07/2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

1. The 112 claim rejections are withdrawn in view of the present amendment.
2. The art rejections over Wycech (US 6,287,666) or Gigiakos (US 2004/0111997) are withdrawn in view of the present amendment. However, upon further consideration, a new ground of rejection is made in view of the admitted prior art and Wycech (US 6,287,666).
3. The art rejections over Sutherland (US 6,723,012) in view of Wycech (US 6,287,666) are maintained.

***Drawings***

4. Figures 2 and 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Wycech (US 6,287,666). The admitted prior art as shown in figures 2 and 3 of the present specification discloses each and every limitation of the presently claimed subject matter except the interface being shaped such that the structural foam protrudes into the solid section. Wycech teaches a reinforced channel-shaped member comprising an arch formed at the interface surface of the foam and the shell to support the load and stabilize the walls (column 2, lines 42-45, figure 8). Likewise, it is clearly apparent that the arch reduces stress on the structural foam layer. It is recognized that Wycech is nonanalogous art, however, it is reasonably pertinent to the particular problem with which the applicant was concerned. Wycech and Applicants are related to the formation of the curved surface at the interface section to reduce the stress. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the curved surface at the interface region where the structural foam is bound to the solid section 4 motivated by the desire to support the load, stabilize the walls and distribute force over a generalized area away from the concentration points at the interface, thereby reducing stress at the interface region.
7. Claims 1, 2 and 4-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutherland (US 6,723,012) in view of Wycech (US 6,287,666) substantially as set forth in the 07/12/2005 Office Action.
8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sutherland (US 6,723,012) in view of Wycech (US 6,287,666) as applied to claim 1 above,

further in view of Filice et al (US 6,334,824) substantially as set forth in the 07/12/2005 Office Action.

***Response to Arguments***

9. The art rejections over Sutherland in view of Wycech have been maintained for the following reasons. Applicants argue that Sutherland does not include any solid section for providing an area for structural attachment to the bat because the baseball bat is never structurally attached to anything. The arguments are not found persuasive for patentability because they are not commensurate in scope with the claims. The recitation "for providing an area for structural attachment" does not necessarily require the composite structural material comprising a structural attachment as alleged by Applicants. Such a recitation with respect to the manner in which a claimed composite structural material is intended to be employed does not differentiate the claimed composite structural material from a prior art baseball bat satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

Applicants argue that the proposed combination of references neither includes nor suggests the use of radiusd foam-solid interface within a transition section that couples the solid section to the non-solid composite section. The examiner disagrees. Sutherland discloses a baseball bat comprising a non-solid composite section 2 filled with a structural foam, a solid section 4 wherein a wall thickness of the non-solid composite section 2 is greater than a wall thickness of the solid section 4 as shown in figure 3. Sutherland discloses a baseball bat further

comprising a transition section 3 coupling the non-solid composite section 2 and the solid section 4. Sutherland teaches the foam made from a polymethacrylimide foam (column 11, lines 35-40). Sutherland discloses the first and second layers made from graphite and epoxy, aluminum and plastic (column 3, lines 10-15, and 59-60). Sutherland does not specifically disclose the interface between the solid section 4 and transition section 3 as shown in figures 3 and 5 being shaped such that the structural foam protrudes into the solid section. Wycech teaches a reinforced channel-shaped member comprising an arch formed at the interface surface of the foam and the shell to support the load and stabilize the walls (column 2, lines 42-45, figure 8). Likewise, it is clearly apparent that the arch reduces stress on the structural foam layer. It is recognized that Wycech is nonanalogous art, however, it is reasonably pertinent to the particular problem with which the applicant was concerned. Wycech and Applicants are related to the formation of the curved surface at the interface section to reduce the stress. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the curved surface at the interface region where the structural foam is bound to the solid section 4 motivated by the desire to support the load, stabilize the walls and distribute force over a generalized area away from the concentration points at the interface, thereby reducing stress at the interface region. Applicants further argue that Wycech is not related to the formation of the curved surface at the interface section to reduce stress. The examiner disagrees. The examiner directs Applicants to column column 2, lines 40-46 of Wycech. The passage suggests the arch and

structural foam supports the load, stabilizes the walls and distributes force over a generalized area away from the concentration points at the interface. Likewise, the stress concentration is thus reduced at the interface region. Applicants argue that one skilled in the art would not look to the teaching of Wycech to provide features suitable for incorporation into a composite structural material as presently claimed. Since the arguments are not fully supported by any factual evidence but rather based on Applicants' opinion, the arguments are not found persuasive. Accordingly, the art rejections are sustained.

***Conclusion***

**10. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485.

The examiner can normally be reached on Monday through Friday, from 6:00 to 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

Hai Vo

HAI VO  
PRIMARY EXAMINER